

REMARKS

Claims 19, 27-31, 39-40, 46-47, 50-53, 61-71 and 73-81 are pending. Claims 2, 4, 6, 12, 16, 20-26, 32-38, 41-45, 48-49, 54-60 and 72 have been canceled without prejudice and without acquiescence. Claims 19, 46, 47, 51, and 61-67 have been amended without prejudice and without acquiescence. Support for the amendments can be found throughout the entire specification, more specifically, pg. 2, lns. 24-27; pg. 3, lns. 19-20 and pg. 4, lns. 26-27. Claims 73-81 have been added of which support can be found in the canceled claims. Applicants retain the right to file a continuation application on any canceled or amended material. Applicants assert that no new matter has been added.

The issues outstanding in this application are as follows:

- Claims 2, 20, 21, 32, 35, 36, 42, 57 and 58 are rejected under 35 U.S.C. § 102(b) as being anticipated by Ronaghi et al. (Anal. Biochemistry, 1996).
- Claims 2, 4, 6, 12, 16, 19-31, 33, 34, 37-40 and 41-72 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ronaghi et al., in view of Mian et al., (US 6,319,469).

Applicants respectfully traverse the outstanding rejections, and Applicants respectfully request reconsideration and withdrawal thereof in light of the amendments and remarks contained herein.

I. 35 U.S.C. § 102(b)

Claims 2, 20, 21, 32, 35, 36, 42, 57 and 58 are rejected under 35 U.S.C. § 102(b) as being anticipated by Ronaghi et al. (Anal. Biochemistry, 1996).

In order to advance prosecution, Applicants have canceled claims 2, 20, 21, 32, 25, 42, 57 and 58 without prejudice and without acquiescence. Thus, Applicants respectfully request withdrawal of the rejection.

II. 35 U.S.C. § 103(a)

Claims 2, 4, 6, 12, 16, 19-31, 33, 34, 37-40 and 41-56-72 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ronaghi et al., in view of Mian et al., (US 6,319,469).

First and foremost, in order to advance prosecution, Applicants have canceled claims 2, 4, 6, 12, 16, 20-26, 33-34, 37, 38, 41-45, 48-49, 54-60 and 72 without prejudice and without acquiescence.

Turning to the pending claims, Applicants contend that independent claims 19 and 46 are methodologically distinguishable from Ronaghi et al. In the presently claimed invention, primer DNA is first attached to the reaction areas within a reaction chamber whereafter sample DNA is hybridized to primer DNA. Figure 1 of Ronaghi et al. clearly shows that it is the target DNA (= sample DNA) to be sequenced that is immobilized (Also See, pg. 85, first col., para. 3), not the primer DNA. Thus, this sequence of events in Ronaghi et al. is the opposite of the presently claimed invention. In view of this, Applicants contend that Ronaghi does not teach immobilizing the primer DNA first, thus, this element of claims 19 and 46 is not taught by Ronaghi et al. Further, the Examiner has not identified how this element is taught or suggested by Mian et al. If the Examiner continues to maintain the above references as the basis for this rejection, the Examiner is requested to make of record the passage relied upon, or state for the record that no such teaching can be found. *See, In re Gartside*, 203 F.3d 1305, 53 USPQ2d 1769 (Fed. Cir. 2000).

Regarding independent claim 46, Applicants have also amended without prejudice and without acquiescence independent claim 46 to include the limitation of an application area in common with more than one microchannel structure of which each microchannel structure has a reaction chamber. The Examiner has conceded that Ronaghi et al. does not teach or suggest this element, among several others (EXAMINER'S OFFICE ACTION OF 07-06-2005, pg 11, para. 2). The Examiner then relies on Mian et al. to provide the elements lacking in Ronaghi et al. (*Id.*, pg 11, para. 3 – pg 13, para. 2). However, the Examiner does not identify or even address how and where Mian et al. teaches the element of an application area in common with more than one microchannel structure. The absence of this element in the cited references vitiates any obviousness rejection.

Yet further, independent claims 46, 47 and 51 have been amended to include that detection occurs in each reaction area of the reaction chamber. The Examiner has alleged that each bead in Ronaghi's method corresponds to the claimed reaction area (EXAMINER'S OFFICE ACTION OF 07-06-2005, pg. 6), however, Applicants traverse this allegation. In the method described by Ronagi et al., all the beads are treated collectively such that the measured signal is the sum of bioluminescence from all beads. Thus, it would not be possible to distinguish and quantify the signal from each individual bead as is intended with the reaction areas of the presently claimed invention. Nowhere that Applicants can identify is there any suggestion of this element in either Ronaghi or Mian. Thus, if the Examiner continues to maintain the above references as the basis for this rejection, the Examiner is requested to make of record the passage relied upon, or state for the record that no such teaching can be found. *See, In re Gartside*, 203 F.3d 1305, 53 USPQ2d 1769 (Fed. Cir. 2000).

Still further, independent claims 46, 47 and 51 have been amended without prejudice and without acquiescence to indicate that primer DNA is different for at least two of the reaction areas. In other words in order to identify or sequence one particular nucleic acid, the presently claimed method requires at least two different primer DNAs. This is neither disclosed nor suggested in Ronaghi et al. nor Mian et al. Thus, if the Examiner continues to maintain the above references as the basis for this rejection, the Examiner is requested to make of record the passage relied upon, or state for the record that no such teaching can be found. *See, In re Gartside*, 203 F.3d 1305, 53 USPQ2d 1769 (Fed. Cir. 2000).

Regarding the dependent claims, claims 27-31, 39-40, 50, 52-53, and 61-71 contain all the limitations of their respective independents and are, thus valid on the same basis as their respectively referenced independent claims.

In view of the foregoing amendments and arguments, Applicants assert that a *prima facie* case of obviousness has not be established. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Thus, Applicants respectfully request that the rejection be withdrawn.

Conclusion

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 06-2375, under Order No. HO-P02216US0 from which the undersigned is authorized to draw.

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Respectfully submitted,

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